RESULTS (1) The plasma levels of catestain were inversely associated with norepinephrine in AMI patients (r= -0.357 p=0.001).

(2) Plasma concentration of catestatin were inversely associated with rest heart rate during recovery phase of AMI, and positively correlated to predictive heart rate reserve (r=0.243, p=0.030), HRR_1 (r=0.238, p=0.033) and HRR_2 (r=0.234, p=0.037).

(3) Multiple linear regression analysis of catestatin demonstrated that catestatin was negatively correlated to norepinephrine and positively correlated to HRR_2, however no dependently associated with HRR_1, rest heart rate during recovery phase of AMI, and predictive heart rate reserve.

CONCLUSIONS (1) The levels of plasma catestatin in AMI patients are negatively independently related to norepinephrine, and it is showed that catestatin inhibits the release of catecholamine.

(2) Plasma concentration of catestatin are positively associated with HRR_2. Lower catestain is an independently predicting factor of autonomic nervous dysfunction in AMI.

GW26-e2294

Quality of Life and Exercise Capacity in Patients after Minimally Invasive Mitral Valve Surgery

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OBJECTIVES This study aims to determine quality of life (QOL) and exercise capacity (EC) in patients after minimally invasive mitral valve surgery (MIMVS) by comparing with QOL norms and the normal predicted values of EC, respectively, and to explore whether there is a correlation between QOL and EC, then to put forward some evidence-based suggestions for the postoperative rehabilitation of MIMVS patients.

METHODS Fifty patients (average age: 48.24 ± 13.54y, average post-surgery duration: 225.1 ± 160.27 days, 23 female, 27 male) undergoing MIMVS in Guangdong Cardiovascular Institute between Jan. 2013 and Sept. 2014 were recruited. General information of patients was recorded by self-made inventory. QOL and EC were assessed by Short Form-36 questionnaire (SF-36) and cardiopulmonary exercise testing (CPET), respectively. The MIMVS-patient QOL measured by physical component summary (PCS) and mental component summary (MCS) was compared with the QOL norms, while EC in terms of peak oxygen uptake (peak VO_2/kg) was compared with the normal predicted values of EC. All data were computed with SPSS 17.0, and p value less than 0.05 was the criterion for statistical significance.

RESULTS The mean PCS and MCS of 50 MIMVS patients are 44.26 ± 9.09 and 52.11 ± 12.48, respectively, while the mean peak VO_2/kg is 20.62 ± 4.83 ml/kg/min and mean percentage of predicted values of peak VO_2 is 66 ± 12.17%. Compared with QOL norms, seventy-six percent patients have decreased PCS, whereas only twenty-four percent patients have decreased MCS. In comparison with the normal predicted values of EC, eighty-six percent patients have decreased peak VO_2/kg. Meanwhile, the peak VO_2/kg of twenty-seven patients (54% of all) is less than 20 ml/kg/min. There is a positive correlation between peak VO_2/kg and PCS ($r_{spearman} = 0.371$, $p = 0.008$).

CONCLUSIONS Although MIMVS patients bear the minimal trauma during surgery, there is still more than half of MIMVS patients with below normal level in PCS and EC. Positive correlation between EC and PCS is found, which indicates positive correlation between objective measures and subjective measures of physical function. This finding suggests that attention should be paid to the decreased EC and PCS of MIMVS patients when offering them rehabilitation treatment.

REHABILITATION OF CARDIOVASCULAR DISEASE COMPLICATIONS

GW26-e1581

A Meta-Analysis of Randomized Controlled Trials of Plain Old Balloon Angioplasty Versus Drug-Eluting Balloon in Patients with In-Stent Restenosis

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OBJECTIVES The aim of this study was to compare the 30-day safety and efficacy of plain old balloon angioplasty (POBA) versus drug-eluting balloon (DEB) for treatment in patients with in-stent restenosis (ISR).

METHODS Data were combined across 11 trials comprising 1,989 patients. Major adverse cardiovascular events(MACE) was the primary endpoint. Target lesion revascularization (TLR), myocardial infarction (MI) and all-cause mortality were the secondary endpoints. Odds ratio (OR) with 95% credible intervals (CIs) was combined using random-effects models.

RESULTS The risk of MACE was significantly higher in the POBA group than in the DEB (OR: 4.20, 95% CI: 2.50 to 8.10, $p < 0.01$). Compared with DEB, POBA also had a higher rate of TLR(OR: 4.50, 95% CI: 2.40 to 9.80, $p < 0.01$).The rates of MI (OR: 1.30, 95% CI: 0.46 to 3.30, $p > 0.05$) and all-cause mortality (OR: 2.50, 95% CI: 0.86 to 7.70, $p > 0.05$) were similar between the POBA and DEB.

CONCLUSIONS For patients with in-stent restenosis, treatment with POBA showed the trend of more developments of MACE and TLR than did treatment with DEB.

PSYCHOLOGICAL REHABILITATION OF CARDIOVASCULAR DISEASE

GW26-e0222

Severity of depressive symptoms pre and post-cardiac rehabilitation: A comparison in Brazil, Canada, Colombia, the United States and Venezuela.

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OBJECTIVES Depression is three times more prevalent in the cardiac population than in the general population in high-income countries (HIC), and is particularly high in low and middle-income countries (LMICs). Comorbid depression is associated with two times greater mortality. Psychosocial health is one of the core components of cardiac rehabilitation (CR). The objective of this study was to describe and compare depressive symptoms in CR participants pre and post-program, in selected South (Brazil, Colombia, and Venezuela, classified as upper-middle-income countries) and all North American countries (Canada and United States; classified as high-income).

METHODS A convenience sample of adult CR participants from 7 CR programs in Brazil, Canada, Colombia, the United States, and Venezuela completed the Patient Health Questionnaire (PHQ-9) at CR intake, and again at program discharge. The PHQ-9 is a multi-purpose instrument for screening, diagnosing, monitoring and measuring the severity of depression. Response options for each item range from 0 “not at all” to 3 “nearly every day”. PHQ-9 total scores range from 0 to 27, as each of the 9 items are summed. Cut-points of 5, 10, 15, and 20 represent the thresholds for mild, moderate, moderately severe, and severe depression, respectively. A single cut-point is currently recommended at a PHQ-9 score of 10 or greater. Clinical data were extracted from charts. PHQ-9 scores were compared by country and by time.

RESULTS There were 779 participants who completed the PHQ-9 pre- and post-CR: 45 Brazilian (5.8% of sample), 214 Canadian (27.5%), 126 Colombian (16.2%), 309 American (39.7%), and 85 Venezuelan (10.9%). Pre-CR depressive symptoms significantly differed between countries ($p<.05$), with Colombian participants reporting higher scores than Canadians and Venezuelans. Depressive symptoms significantly decreased during CR in Colombia (mean change=2.33; $p<.001$), the United States (mean change=1.12; $p<.001$) and Venezuela (mean change=2.14; $p<.001$), but not Brazil or Canada. Post-CR depressive symptoms significantly differed between countries ($p<.001$), with Canadian participants reporting higher scores than Colombians and Venezuelans, and Venezuelans reporting lower scores than Colombians, Americans and Brazilians. Among those with elevated scores pre-CR, significant reductions in PHQ-9 scores were observed in Canada, Colombia, Venezuela, and the USA.

CONCLUSIONS Depressive symptoms are variable among CR patients in South and North American countries, with some accordance to observed trends of greater mental well-being in South than North America. CR programs incorporating psychosocial components can reduce these symptoms.